AMENDMENTS TO SPECIFICATION

Please replace the paragraph at pg. 5, l. 3 with the following paragraph.

With the present invention, ~~design~~ candidates may be composed by drawing components from a component library to generate qualitatively and quantitatively distinct candidates rapidly, under computer control, a powerful enabler for exploring large ~~design~~ spaces of alternatives. ~~Design candidates~~ Candidates' behaviors can also be derived automatically using behavioral descriptions of the components in the component library, and these derived behaviors can be used as a basis for evaluating the candidates according to multiple criteria. Many computers can be used in parallel to facilitate rapid generation and evaluation of large numbers of choice candidates.

Please replace the paragraph at pg. 8, l. 1 with the following paragraph.

Referring to Fig. 1, a block diagram of an architecture for an example embodiment of the present invention is shown. In Fig. 1, the primary components of the example architecture are shown. The Seeker 100 ~~acquires~~provides ~~alternative~~ candidates 102 that are alternatives by generating them or retrieving them from another source such as a database, and evaluates them according to multiple criteria. The candidates 102 might be designs for a device, plans to achieve a set of objectives, alternative hypotheses for an experiment, alternative holdings for a stock portfolio, or any set of alternatives that a user may want to consider and evaluate using multiple criteria. The FCML compositional modeling and simulation technology of the present invention may be used to generate and evaluate ~~design~~ candidates in many different

domains. Generating the candidates and evaluating them may involve domain-specific techniques and algorithms. In some domains, a database of alternatives and their evaluations may be available as candidates and the Seeker only needs to retrieve or draw them from the database.

Please replace the paragraph at pg. 8, l. 13 with the following paragraph.

The~~evaluated~~ candidates 102 are passed from the Seeker 100 to the Filter 104. A subset of the candidates (filtered candidates 106) remains after application of the Filter 104. The Filter 104 may employ any one of a number of filter algorithms to reduce the number of candidates to be considered. In an example embodiment of the present invention, a dominance filter may be used. In a classical dominance filter,~~design~~ candidate A is said to dominate candidate B if A is superior or equal to B in every criterion of evaluation and strictly superior for at least one criterion. The filter removes dominated ~~designs.~~candidates. Removing them does not entail any risk because a candidate is removed only when there is another candidate that is at least as good as it. Surviving ~~designs~~candidates are Pareto optimal, i.e., there is no way to improve with respect to any criterion without giving up something along another criterion.

Please replace the paragraph at pg. 17, l. 17 with the following paragraph.

Components for the device library 140 may be defined in accordance with a functional compositional modeling language (FCML). FCML supports numerical simulation and equation solving and may be used to specify components, their

behaviors, possible relations (such as connections) between component types and information about how participants in the relations affect each other, and composition schemes (which can be viewed as abstract or generic components). Equation solving uses heuristically guided variable value propagation. In the Functional Compositional Modeling Language (FCML), devices are composed of components which are held together by relations. With knowledge of the behavior of the components and the relations that bind them, the whole device can be simulated. A text source file is constructed, containing details of the components, relations and how they are to be composed and simulated. Once a device library 140 is specified using the FCML, then~~design~~ candidates may be specified composed of components from the library, and questions about the behavior of the composed designs may be posed. An FCML simulator simulates the specified device, keeps track of the variables that are implicated in the specific question asked, and provides an answer to the question. The FCML simulator provides answers if the components and relational parameters are sufficiently well specified. The FCML simulator works easily with a combinatorial generator, and thus supports automatic generation of compositional~~design~~ candidates and their simulations.

Please replace the paragraph at pg. 46, l. 18 with the following paragraph.

Referring to Figs. 17 and 18, example screen displays of scatterplots illustrating the display linking feature of the present invention are shown. One feature of the Viewer is that the displays are linked. Selections made in one display are reflected in

the others. ~~Another~~In another feature of the viewer, various techniques may be ~~viewer is the use of color~~used to ~~highlight~~distinguish the selected candidates (e.g., highlight in color). For example, in Fig. 17 left screen display 170, the user may tentatively select candidates within a rectangle 172. These choices may appear distinguished (e.g., highlighted in red). The right display 174 shows the marked candidates in another scatterplot, distinguished similarly (e.g., displayed in the same color). The user may examine whether the selected candidates of the left display 170 have acceptable properties with respect to the criteria in the second plot 174 (and other plots not shown in the Figure). If not, the user may withdraw the tentative selection and make other selections. He may choose to make the selection smaller or larger, focus on other regions in the same scatterplot, or move to another scatterplot altogether.

Please replace the paragraph at pg. 47, l. 6 with the following paragraph.

The Viewer also supports viewing the intersection of different choices. For example, in Fig. 18, in the left screen display 180 the intersection of two selections 182, 184 is shown. The first selected region 182 may be distinguished (e.g., highlighted in a first color) and the second selected region 184 distinguished differently (e.g., highlighted in a second color). The intersection may be distinguished (e.g., shown in a third color). The distinguishing features (e.g., colors) will be retained in the other display 186 so the user can see how the candidates in the two sets and their intersection perform with respect to other criteria. The user may make a choice in one diagram, make a choice in

another diagram, and then see whether the candidates satisfying both of the two choices have desirable properties in the other diagrams.